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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,343	12/01/2000	Gary Mark Crosbie	200-0188	4125

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EXAMINER

SAMPLE, DAVID R

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N.	Applicant(s)	
	09/728,343	CROSBIE, GARY MARK	
	Examiner	Art Unit	
	David Sample	1755	

The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri-Officer Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM

A SHORTENED STATUTORY PERIOD FOR FILING
THE MAILING DATE OF THIS COMMUNICATION

THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

Disposition of Claims

4) Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-6 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) 1-12 are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____ .
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3. 6) Other: _____

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6, drawn to glass compositions, classified in class 501, subclass 5.
- II. Claims 7-12, drawn to a method of using a glass, classified in class 65, subclass 36+.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process of use such as a process of glazing a ceramic or enameling a metal.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with William Abbatt on March 14, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujinaka et al. (US 4,806,334).

At the outset, it should be noted that in examining the present application, the claims have been interpreted to exclude the presence of boron and alkali metals in view of the "consisting essentially of" claim language and the disclosure at page 12, lines 15-28. See MPEP 2111.03.

Fujinaka et al. discloses a glass glazing composition containing amounts of components that anticipate the glass described in instant claims 1 and 5. See Sample 15, Table 3. In this regard, the examiner has converted the composition of Sample 15 from weight percent to mole percent and arrived at the following composition:

	wt%	mol%
SiO ₂	65%	74%
BaO	18%	8%
Al ₂ O ₃	7%	5%
CaO	8%	10%
MgO	2%	3%

It is noted that the reference requires the presence of CaO and Al₂O₃ whereas the present claims employ "consisting essentially of" claim language. "Consisting essentially of" claim

language limits a claim to the recited ingredients and any ingredients which do not materially affect the novel and/or basic characteristics of the invention. See MPEP 2111.03. There is nothing of record to suggest that the addition of CaO or Al₂O₃ affects the novel and/or basic characteristics of the present invention.

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Gardner (US 3,935,017).

Gardner discloses a glass composition containing amounts of components that anticipate the glass described in instant claims 1 and 5. See Glass composition No. G1, col. 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budd (WO 98/46540).

Budd discloses a glass composition which appears to have overlapping ranges of components with the glass of the present invention. It is impossible to convert ranges in weight percent to ranges in mole percent. However, the examiner formulated theoretical compositions that fall within the ranges disclosed by the reference and the presently claimed ranges:

	wt%	mol%
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SiO ₂	50%	62%
BaO	40%	19%
MgO	10%	19%

This theoretical composition is evidence that overlapping ranges of components exist between the glass of the reference and the glasses of instant claims 1 and 5. Overlapping ranges of components have been held to establish *prima facie* obviousness. See MPEP 2144.05.

Claims 1, 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Durschang (EP 1008563) in view of Bagger et al. (EP 1010675).

Durschang discloses a glass composition that has overlapping ranges of components with the glass described by instant claims 1, and 3-6. See the translated abstract provided herewith, and paragraph [0023]. As noted above, overlapping ranges of components have been held to establish *prima facie* obviousness. See MPEP 2144.05. The reference describes its composition in terms of mole percent. See paragraph [0011].

It is noted that present claims 1 and 3 require ">55%" SiO₂ whereas the reference discloses an upper limit of 55%. However, no difference can be discerned between the upper limit of the reference and the lower limit of the instant claims. Further in this regard, the reference describes the ranges of components using two significant figures. Therefore, to one of ordinary skill in the art, "55.1%" is within the teachings of the reference because 55.1% is 55%.

In the alternative, the present claims employ "about" with respect to the claimed ranges. The latitude in interpreting the word "about" in claims results in some amount of overlap between the claims and the reference.

As to claim 4, overlapping ranges of SiO₂ exists because of the latitude in interpreting the word about.

Durschang differs from claims 2, 4 and 6 by failing to disclose that the composition includes forsterite. However, the materials of Durschang are employed as "joining" materials for fuel cells. See the translated abstract.

Moreover, Bagger et al. discloses that Mg₂SiO₄ (forsterite) can be added to solid oxide fuel cell sealing glasses so that the thermal expansion coefficient of the sealing composition can be matched to the thermal expansion coefficient of the solid oxide fuel cell. See paragraphs [0014] and [0015] of Bagger et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added forsterite to the sealing composition of Durschang as suggested by Bagger et al. because the resultant seal would have a thermal expansion coefficient that matches the thermal expansion coefficient of the fuel cell.

Claims 1, 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dumbaugh et al. (US 3,501,322).

Dumbaugh et al. discloses a glass composition that has overlapping ranges of components with the glass described by instant claims 1, 2 and 5. See col. 2, lnes 40-48. As noted above, overlapping ranges of components have been held to establish *prima facie* obviousness.

It is noted that the reference requires the presence of La₂O₃ and Al₂O₃ whereas the present claims employ "consisting essentially of" claim language. "Consisting essentially of"

claim language limits a claim to the recited ingredients and any ingredients which do not materially affect the novel and/or basic characteristics of the invention. See MPEP 2111.03. There is nothing of record to suggest that the addition of La_2O_3 or Al_2O_3 affects the novel and/or basic characteristics of the present invention.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (703)308-3825. The examiner can normally be reached on Monday to Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on (703)308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.



David Sample
Primary Examiner
Art Unit 1755

DRS
September 22, 2002